



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,218	07/05/2005	Tarou Kanamori	266359US0PCT	5597
22850	7590	02/07/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BRUNSMAN, DAVID M	
			ART UNIT	PAPER NUMBER
			1755	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/525,218

Applicant(s)

KANAMORI ET AL.

Examiner

David M. Brunzman

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2007 and 01 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20061101</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1755

Applicant's response and amendment filed 15 May 2006 and supplemental filed 01 November 2006 have been carefully considered. The translations of documents W099/41322, JP11-262669, JP2000-336313, JP61-026637 and the English language equivalent of JP2004-192616 have been carefully reviewed. JP2004-192616 appears to be irrelevant to the instant claims. No translation or English equivalent of JP2001-192616 has been made of record. Examiner continues to properly rely upon its description as found in the PCT report. Claims 3-22 are pending. New claims 6-22 were added by applicant's amendments. The rejections under 35 U.S.C. 102 are withdrawn in view of the amendment filed.

Applicants response describes the disclosures of W099/41322, JP11-262669, JP2000-336313 and JP61-026637 as teaching at least components a), b) and c) of the instant claims. JP2001-192616 is described as teaching component c), d) and organotitanium compounds (that fall within the scope of component b). The PCT report clearly includes siloxanes similar to component d) improve the stability of dispersions of photocatalytic particles such as nanosized titania. Applicant argues the reference fails to teach the combination of the titanium compound b) with the siloxanes of d) and the superior properties including storage stability and film transparency. To the contrary, one of ordinary skill in the art would have been clearly motivated by the teachings of the prior art relied upon to form the combination of the instant claims. The prior art teaches addition of the siloxanes component to dispersions of photocatalytic particles itself improves the stability thereof. Furthermore, the instant specification contradicts the theory that the combination of b) and d) is necessary to observe the superior properties. Example 2 of the instant specification demonstrates the same superior properties: stability AA, transparency AA and crosscut test 100; without the inclusion of component b).

Applicant's response does not particularly point out ways in which the added claims further define over the prior art of record or further compare them to the prior art in any way. Claims 3-22 stand finally rejected over the combination of each of W099/41322, JP11-262669, JP2000-336313 and JP61-026637 in view of JP2001-192616. The explanation of the rejection over W099/41322 in view of JP2001-192616 has been expanded to explicitly address the limitations of the new claims as exemplary.

Art Unit: 1755

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of WO99/41322, JP11-262669, JP2000-336313 and JP61-026637, individually in view of JP2001-192616. The examples of WO99/41322 teach an aqueous coating composition and film made therefrom comprising 8-24% photocatalytic nanosized anatase titania particles suspended in a carrier including water, methanol and a catalytic amount of nitric acid (i.e. ST-K01), a partial hydrolysate (condensate) of titanium tetraethoxide and 2-15% methyltrimethoxysilane; the ratio of fine titania particles to titanium compound being from 8.2-25.5.

JP11-262669 describes an aqueous coating composition of a dispersion of nanosized titanium or indium oxide particles, a hydrolysate (condensate) of titanium tetraalkoxide, a tetraalkoxysilane and an acid catalyst

JP2000-336313 describes an aqueous coating composition of nanosized titanium or indium oxide particles, a hydrolysate (condensate) of titanium tetraalkoxide, a hydrolysate (condensate) of a mono- or di- alkylalkoxysilane or mixture thereof and a catalyst.

JP61-026637 describes an aqueous coating composition of colloidal silica, a titanium tetraalkoxide, alkylalkoxysilane and an acid catalyst.

Art Unit: 1755

The difference between the instant claims and the primary reference is the inclusion of the organosiloxane oligomers of component d). JP2001-192616 teaches the stability of dispersions of photocatalytic particles (such as titania) is improved by adding and organosilanes oligomers with a weight average molecular weight of 300-100,000, having a SiO bond and having a group represented by  $-(RO)_p-(R'O)-R''$ . It would have been obvious to one of ordinary skill in the art to add such an oligomers to the compositions of the primary references because JP2001-192616 teaches stability would be improved.

US Patent 6051665 has been cited as relevant to the instant claims but, aggregative in view of the claims as currently written.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Brunsman whose telephone number is 571-272-1365. The examiner can normally be reached on M, Th, F, Sa; 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1755

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David M Brunsman  
Primary Examiner  
Art Unit 1755

DMB

A handwritten signature in black ink, appearing to read 'David M Brunsman', with a long horizontal stroke extending to the right.